

Put all work on a separate page

6. A quarterback running forward at 5 meters per second throws a football with a velocity of 25 meters per second at an angle of 40° with the horizontal. What is the resultant speed and direction of the pass?

7. A ship sails 50 miles with a bearing of $N20^\circ E$ and then turns and sails 30 miles with a bearing of $N80^\circ E$. Find the ship's resultant distance and bearing.

8. A plane flies 200 mph with a bearing of $N40^\circ W$. The air is moving with a wind speed of 60 mph on a bearing of $S10^\circ W$. Find the plane's resultant velocity and bearing.

9. A scuba diver swims 100 feet per minute on a bearing of $S10^\circ E$. The water is moving with a current of 30 feet per minute with a bearing of $E25^\circ S$. Find the diver's resultant speed and bearing.

****10. A jet is flying with an air speed of 480 mph at a bearing of $N82^\circ E$. Because of the wind, the resultant speed of the plane is 518 mph at a bearing of $N79^\circ E$. What are the speed and direction of the wind?

Answers:

6) 29.01 mps; 33.64°

7) 70 m; $E 48.21^\circ N$

8) 167.85 mph; $W 34.11^\circ N$

9) 119.75 ft/min; $E 68.16^\circ S$

10) 46.10 mph; $E 44.02^\circ N$